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Using the Technology in Content-Based Second Foreign Language Teaching at the Research University

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Abstract

This article describes a project launched at the Department of the German Language of Tomsk State University, Russia. The authors consider the changes in enlarging the current curriculum on the example of the course of the German language taught for the first-year students. A project to create a pilot content module on the basis of the available technology at the University to expand curricular content in accordance with the first-year textbook was conducted.

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1. Introduction

There is a large body of information and authentic materials available for foreign language teachers on the Internet; however, these materials are not always at an appropriate language level and comprehensible for the 1st year students. Therefore, modification of the authentic materials is necessary in order to increase comprehensibility for the 1st year students and to appropriate delivery systems developed. This paper discusses the curricular motivations behind the development of such a delivery system, the content module project, the theoretical background, the content contained within the module, the technical specifications and pilot study feedback. The topic chosen for this module was “Wetter und Klima” or weather and climate.

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2. Content modules

2.1. The importance of specific content in ESP teaching

Even in the first year courses, it is important for students to have the opportunity to learn specific content. Using content for instruction allows students to continue to develop academically while improving their language proficiency at the same time (Stoller, 2004; Obdalova & Gural, 2012; Beltyukova, & Zhitkova, 2013). If progress in a foreign language is going to occur, students need to be constantly dealing with materials and content in the target language. While students are engaged in the content modules, the content based instruction (CBI) that they are participating in also empowers them to become independent learners and will hopefully motivate them to continue learning outside of the classroom (Stryker & Leaver, p. 4). More importantly, the learners will begin to accept responsibility for their own learning.

Ideally, learning will continue to occur not only outside the classroom, but also across subjects. Material that is learned in the content module will ideally connect with another course that the students will take. The *Standards for Foreign Language Learning*, a document created through the collaborative effort of the Russian Council on the Teaching of Foreign Languages and other language specific teaching organizations in Russia, seeks for specific and explicit content connections to be made in foreign language classrooms. Under the category of connections, the *Standards* document states that students will “transfer learning strategies from other school subjects to German, use an integrated content approach that brings the general curriculum into the language classroom or takes the language into another content area and that students will seek German resources beyond the classroom for enriching content learned in other classes” (Standard, 1999, p. 247).

2.2. Organization of the material in content modules

The content modules approach seeks to satisfy many student, teacher and curricular needs. First of all, students needed more opportunities to read developmentally appropriate texts in the target language. “Achievement is directly related to a student’s instructional exposure. This instructional exposure is something others refer to as opportunity to learn (OTL). OTL helps to understand some of the achievement gaps” (Hlebowitsh, 2001). Likewise, we cannot expect high levels of reading achievement from our students if they are not provided with the opportunity to read. It has been our experience that our current textbook, as well as many other beginning textbooks, does not provide enough appropriate texts for the students to increase their reading proficiency beyond a rudimentary level. The content module approach increases the opportunities for the students to read.

Texts and other materials in the content module need to be authentic and provide comprehensible input that is just beyond the students’ level of proficiency. “According to Krashen’s input hypothesis, L_2 acquisition takes place when a learner understands input that contains grammatical forms that are at $i + 1$ ” (Ellis, 1997, p. 47). First year students have difficulty finding appropriate, authentic materials on the Internet. Students are able to find texts that interest them, but these texts at the first year level are rarely at the level of $i + 1$. They are more frequently at the level of $i + 50$. Students consequently need structure and direction in choosing texts, as well as help resources that are not available in one place on the Internet.

In addition, many students are unaware that they need help at all. If they do realize that they need help, they are often uncertain as to what type of help they need. This project relies heavily on diagrams, pictures, sound and video to aid reading comprehension. Students do have access to a glossary providing translations, but the glossing that does occur with pictures is in the target language only. In support of this usage, Chun and Payne (2004) indicate that previous studies have shown that the use of multimedia glosses for vocabulary have been found to have higher retention rates when learners look up a picture or associates words with pictures as opposed to looking up translations alone. Lomicka’s work (1998) with glossing also suggests that a deeper level of text comprehension may be advanced when a full array of glossing is available to the students, which was evidenced in the study by the ability of the learner, who had glossing available to them, to make correct inferences.

This content module provides the aforementioned assistance while scaffolding learners and building their skills through increasingly difficult content and tasks. In constructing the content and tasks, the framework of interactive processing theory was taken into consideration because interaction is occurring between the reader and the text, and

these interactions are consequently bringing or scaffolding the students to a higher level of comprehension (Samuels & Kamil, 1984; Silberstein, 1987; Swaffar et al., 1991). On the other hand, each learner is different, and the learners may interact with the texts using bottom-up or top-down strategies. This module makes particular use of bottom-up processes which focus on word recognition skills and vocabulary knowledge. The module then progresses to more top-down processes once a vocabulary base has been established.

2.3. Strategies of teaching through Internet technologies

Kim (2002) points out that in order to maximize reading achievement in a computer-assisted environment, the following strategies should be employed: individual support through multimedia annotations, open-ended and well-designed true/false questions, immediate and adequate feedback, tracking of student performance and progress, promotion of vocabulary development, prompt inferencing and predictions. The use of annotations has already been discussed and a few of the aforementioned aspects will be discussed further.

Students using the module receive instant feedback and are allotted the opportunity to pace themselves by moving forward or repeating content as necessary. Student quizzes are automatically graded and recorded through the WebCT course management system (CMS). Unfortunately, there are no open ended questions, because the module was designed with learner autonomy in mind. The possibility of paying a teaching assistant to grade open ended questions simply does not exist; therefore accommodations concerning question types have been made. The questions are rotated in order for the students to review and repeat the material as necessary. However, there is no set score that students must attain in order to move on. They simply need to feel comfortable with their progress. Learner feedback also needs to occur in order for students to know what errors have been made. Without feedback, students will not be able to reevaluate their hypothesis that leads them to a certain answer. Reviewing material allows for the testing of hypotheses that may be reformulated and tested in order for system restructuring to occur (Rosa & Leow, 2004, p. 194).

The creation of a content module can be time consuming and patience is essential. Dreamweaver and Fireworks by Macromedia were two programs that were of primary importance in creating the individual pages. Dreamweaver is a program used for the creation of individual web pages. Fireworks is a program used for the creation or editing of images. Other ancillary programs used were Apple's iMovie, Quicktime, Hot Potatoes and basic audio recording software. iMovie is a video editing software package that was used to digitize a German weather report, which the University has obtained the copyright for, and Quicktime was used to stream and edit the video into appropriate size clips. The video was then uploaded onto the video streaming server at Tomsk State University. Hot Potatoes is a program that allows a designer to create interactive exercises, such as drag and drop and fill in the blank. For this project, Hot Potatoes was used to create exercises in order to practice the new vocabulary. Basic audio recording software was used to record the pronunciation of vocabulary words and the weather report texts by a native speaker.

Once the pages were created using Dreamweaver, they were then uploaded to WebCT. WebCT is a course management system (CMS) that allows teachers to organize and present material to their students on a secure, web-based interface. Only enrolled students have access to the material contained in this space. Within WebCT, the content module feature was used to order the pages logically and sequentially. Students are initially greeted with a table of contents and a small paragraph giving directions for the modules. From this point on, movement can occur through the use of a toolbar at the top of the page that allows students to move forwards or backwards in the module, or they may return to the table of contents. The table of contents also outlines all of the sections that students will be completing, and they could theoretically start at the end of the module and work their way forward, although this method is not encouraged.

In the first section, students are presented with the basic vocabulary as well as the pronunciation of the words. The pages thereafter continue to incorporate the vocabulary and augment this vocabulary in context therefore delivering content more in depth than the textbook. At the end of each section, there is a self-correcting quiz in addition to other forms of feedback throughout the module. The quizzes were created in WebCT. Approximately 20 questions were created per section and are stored in the question database. The quiz settings may be set in such a way that rotates the questions displayed each time the student takes the quiz. Any number of question sequences are

available for a 10 question quiz with minimal overlap occurring. The WebCT quiz function also allows for the insertion of pictures, audio and video. All three options were incorporated into the quizzes.

Time needed for each page and section is dependent upon the individual learner, but the module was designed to be completed in a relatively short period of time. The whole module will ideally be completed within an hour.

After establishing the need for this project and its importance, a pilot content module was created. The module is an entirely web-based, self-contained unit and makes use of authentic reading, listening, and visual resources focusing primarily on students' reading and listening skills.

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3. Conclusion

In this paper we have briefly discussed the curricular motivation for the content modules project undertaken at Tomsk State University. In the 1st year curriculum, there is a need for more content oriented instruction and augmentation of the reading and listening components of the curriculum. In ESP teaching it is necessary for students to be constantly dealing with materials and content in the target language. Content modules give them such an opportunity and help them become independent learners while continuation of learning outside of the classroom. Texts and other materials in the content module should be authentic and provide comprehensible input. Modules project has been worked out in such a way to realize the following strategies: individual support through multimedia annotations, open-ended and well-designed true/false questions, immediate and adequate feedback, tracking of student performance and progress, promotion of vocabulary development, prompt inferencing and predictions. The programs Dreamweaver and Fireworks by Macromedia, iMovie, Quicktime, Hot Potatoes by Apple have been used for the creation of individual web pages. The use of these web pages has contributed to the successive learning of professional terminology focusing primarily on students' reading and listening skills through authentic reading and listening.

The theoretical background for such an undertaking as well as the positive and the negative aspects from the findings of the pilot study have been discussed. These suggestions will be taken into consideration for the future.

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